

What is claimed is:

1. An oxygen enrichment apparatus comprising:

an oxygen enriching unit for generating oxygen-  
5 enriched air;

a means for drawing the oxygen-enriched air from the  
oxygen enriching unit;

a discharge unit for discharging the oxygen-enriched  
air transferred thereto by the drawing means from the oxygen  
10 enriching unit via an air passage; and

a control unit for controlling the drawing means,

wherein the oxygen-enriched air generated by the  
oxygen enriching unit has an oxygen concentration ranging  
from about 25 % to 35 %.

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2. An oxygen enrichment apparatus comprising:

a main body having an oxygen enriching unit for  
generating oxygen-enriched air;

a suction unit for suctioning the oxygen-enriched air  
20 from the oxygen enriching unit;

a discharge unit for discharging the oxygen-enriched  
air transferred thereto by the suction unit from the oxygen  
enriching unit via an air passage; and

a control unit for controlling the operation of the  
25 suction unit,

wherein the main body is provided with a display unit

for indicating a state that the oxygen-enriched air is being discharged from the discharge unit.

3. An oxygen enrichment apparatus comprising:

5 a main body having an oxygen enriching unit for generating oxygen-enriched air;

a suction unit for suctioning the oxygen-enriched air from the oxygen enriching unit;

10 a discharge unit for discharging the oxygen-enriched air from the suction unit; and

a control unit for controlling the operation of the suction unit,

wherein the oxygen enriching unit has at least one oxygen enriching membrane for generating the oxygen-enriched  
15 air and a condensed water treating unit is installed at an air passage for guiding the oxygen-enriched air from the oxygen enriching unit to the discharge unit via the suction unit.

20 4. The apparatus of any one of claims 1 to 3, wherein the air passage for guiding the oxygen-enriched air from the oxygen enriching unit to the discharge unit is partially comprised of a flexible connection tube and the oxygen-enriched air is guided via the flexible connection tube to  
25 the discharge unit to be discharged therefrom.

5. The apparatus of claim 3, wherein a fan is installed in the main body for supplying air around the oxygen enriching membrane.
- 5 6. The apparatus of claim 5, wherein the oxygen enriching membrane is of a substantially rectangular shape, a short side thereof being disposed substantially parallel to a direction of flow of the air supplied by the fan.
- 10 7. The apparatus of any one of claims 1 to 3, wherein the discharge unit is detachably installed to the oxygen enrichment apparatus.
8. The apparatus of any one of claims 1 to 3, wherein a  
15 cover is detachably mounted on the discharge unit.
9. The apparatus of any one of claims 1 to 3, wherein a sterile filtration filter and/or an HEPA (High Efficiency Particulate Air) filter is installed at the discharge unit.
- 20 10. The apparatus of any one of claims 1 to 3, wherein the control unit has a timer means for controlling an operation time period during which the oxygen-enriched air is generated.
- 25 11. The apparatus of claim 2 or 3, wherein the control

unit controls a flow rate of the oxygen-enriched air to be about 1.5 liters per minute or greater and sets a timer means such that an operation time of the suction unit is about 1 hour or less.

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12. The apparatus of claim 3, wherein the condensed water treating unit is implemented by allowing air other than the oxygen-enriched air to be introduced into the air passage of the oxygen-enriched air.

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13. The apparatus of claim 12, wherein the air passage of the oxygen-enriched air is provided with an air inlet via an air passage conversion unit.

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14. The apparatus of claim 3, wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air, and the control unit controls the apparatus to perform an oxygen-enriched air generating operation for a time period to discharge the oxygen-enriched air from the discharge unit and then to execute a ventilating operation for a period of time to discharge the air other than the oxygen-enriched air from the discharge unit.

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15. The apparatus of claim 3, wherein air other than the oxygen-enriched air is introduced into the air passage of

the oxygen-enriched air; the control unit controls the apparatus to perform an oxygen-enriched air generating operation for a time period to discharge the oxygen-enriched air from the discharge unit; a stand-by stage during which  
5 the discharge unit stops operating is provided between the oxygen-enriched air generating operation and the ventilating operation; and a ventilating operation is then performed for a period of time to discharge the air other than the oxygen-enriched air from the discharge unit.

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16. The apparatus of claim 3, wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air, and if an operation stop signal is provided to the control unit during the oxygen-enriched air  
15 generating operation, the control unit changes an operation of the apparatus from an oxygen-enriched air generating operation mode to a stand-by stage mode, a ventilating operation mode and a stop mode in that sequence.

20 17. The apparatus of claim 3, wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air, and a heating unit is installed in an air passage for introducing the air other than the oxygen-enriched air.

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18. The apparatus of claim 3, further comprising a

humidity detecting unit for measuring ambient humidity and wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air and the control unit controls the apparatus to perform an oxygen-enriched air generating operation for a time period to discharge the oxygen-enriched air from the discharge unit and then to execute a ventilating operation for a period of time to discharge the air other than the oxygen-enriched air from the discharge unit, and the control unit varies the period of time for the ventilating operation time according to information provided from the humidity detecting unit.

19. The apparatus of claim 3, further comprising a measuring unit for measuring a time during which the oxygen-enriched air generating operation is carried out and wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air and the control unit controls the apparatus to perform an oxygen-enriched air generating operation for a time period to discharge the oxygen-enriched air from the discharge unit and then to execute a ventilating operation for a period of time to discharge the air other than the oxygen-enriched air from the discharge unit, and the control unit varies the period of time for the ventilating operation according to information provided from the measuring unit.

20. The apparatus of claim 3, wherein the condensed water treating unit is a liquid collecting unit provided at the air passage of the oxygen-enriched air.

5 21. The apparatus of claim 3, wherein a part of the air passage is a communicating tube connected to the discharge unit and wherein a liquid collecting unit is separably installed at the communicating tube.

10 22. The apparatus of claim 3, wherein a part of the air passage is a communicating tube connected to the discharge unit; a liquid collecting unit is installed at the communicating tube; a body of the liquid collecting unit is divided into a plurality of parts; and water gathered in the  
15 liquid collecting unit is removed by separating the parts.

23. The apparatus of claim 3, wherein a part of the air passage is a communicating tube connected to the discharge unit; a liquid collecting unit is installed at the  
20 communicating tube; a body of the liquid collecting unit is divided into a plurality of parts; the liquid collecting unit has a tube protruded thereinto; and water gathered in the liquid collecting unit is removed by separating the parts

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24. The apparatus of claim 3, wherein a water absorbent

material or a drying agent serving as the condensed water treating unit is provided at the air passage of the oxygen-enriched air.

5     25. The apparatus of any one of claims 1 to 3, wherein the discharge unit is provided with a discharge port, an opening area of the discharge port being smaller than that of an air outlet port of the suction unit from which the oxygen-enriched air is outputted.

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26. The apparatus of any one of claims 1 to 3, wherein a water tub is installed at the air passage between the oxygen enriching unit and the discharge unit and the oxygen-enriched air is discharged from the discharge unit after  
15     passing through the water tube.

27. The apparatus of any one of claims 1 to 3, wherein a water tub is installed at the air passage between the oxygen enriching unit and the discharge unit and the oxygen-enriched air is discharged from the discharge unit after  
20     passing through the water tube, and Zn or a Zn compound is provided in the water tub.

28. The apparatus of any one of claims 1 to 3, wherein a  
25     silencer is installed in the air passage of the oxygen-enriched air.



29. The apparatus of any one of claims 1 to 3, wherein an  
aroma supplying unit for adding aroma to the oxygen-enriched  
air is installed at the air passage of the oxygen-enriched  
5 air.

30. The apparatus of any one of claims 1 to 3, further  
comprising an anion generator, wherein anions generated by  
the anion generator are mixed with the oxygen-enriched air  
10 and discharged from the discharge unit.

31. The apparatus of any one of claims 1 to 3, wherein  
anti-bacterial material and/or an anti-static material is  
provided in the air passage from the oxygen enriching unit  
15 to the discharge unit.

32. The apparatus of any one of claims 1 to 3, wherein an  
AC power for driving the suction unit is supplied by  
converting a DC power thereinto.

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33. The apparatus of any one of claims 1 to 3, wherein a  
secondary battery is used as a power source for driving the  
suction unit and the control unit.

25 34. The apparatus of any one of claims 1 to 3, wherein a  
secondary battery is used as a power source for driving the

suction unit and the control unit, and a DC power source and the secondary battery are alternatively employed as the power source of the suction unit and the control unit.